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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/724,778	11/28/2000	Jeffrey T. Finer	CYTOP009C1	9331

22434 7590 03/30/2004

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EXAMINER	
TRUONG, TAMTHOM NGO	
ART UNIT	**PAPER NUMBER**
1624	

DATE MAILED: 03/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/724,778	FINER ET AL.	
	Examiner	Art Unit	
	Tamthom N. Truong	1624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *18,19,65,67,73,76 and 82-84* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *18,19,65,67,73,76 and 82-84* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *01-07-04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12-08th-03 has been entered.

Claims 1-17, 20-64, 66, 68-72, 74, and 75 are cancelled. Claims 18, 19, 65, 67, 73, 76, and 82-84 are pending.

Since there is no change to the pending claims, the current enablement rejection is iterated from the enablement rejection of the previous action.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. **Scope of Enablement:** Claims 18, 19, 65, 67, 73, 76, and 82-84 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the treatment of certain cancers (e.g., lung, breast, ovarian, colon, etc.), does not reasonably provide enablement for the treatment of "cellular proliferative diseases" in general. The specification does not enable

any person skilled in the art to which it pertains, or with which it is most nearly connected, to us the invention commensurate in scope with these claims.

The following factors have been considered in the determination of an enabling disclosure:

(1) The breadth of the claims;

(2) The amount of direction or guidance presented;

(3) The state of the prior art;

(4) The relative skill of those in the art;

(5) The predictability or unpredictability of the art;

(6) The quantity of experimentation necessary;

[See ***Ex parte Forman***, 230 USPQ 546 (Bd. Pat. App. & Int., 1986); also ***In re Wands***, 858 F. 2d 731, 8 USPQ 2d 1400 (Fed. Cir. 1988)].

The breadth of the claims: The scope of "cellular proliferative diseases" includes not only all cancers, but also covers precancerous conditions such as lumps, lesions, and polyps. In addition, it embraces various non-cancerous proliferative disorders such as certain types of restenosis, vascular smooth muscle proliferation associated with atherosclerosis, glomerular nephritis, pulmonary fibrosis, clonal proliferative disorders including the various Myelodysplastic Syndromes (such as Preleukemia, Refractory Anemias, Ph-Chromosome-Negaive Chronic Myelocytic Leukemia, Chronic Myelomonocytic Leukemia and Agnogenic Myeloid Metaplasia) and

certain types of abnormal wound healings. It covers numerous types of abnormal angiogenesis (e.g., in certain eye diseases like neovascular glaucoma, diabetic retinopathy, retinopathy of prematurity, retrolental fibroplasias, and age-related and certain other types of macular degeneration), Rosacea, neurodegenerations, respiratory distress in premature infant, some problems in embryonic development. The phrase "cellular proliferative disease" also includes the myeloproliferative disorders (such as primary polycythemia, primary thrombocythemia, chronic myelogenous leukemia and myleofibrosis). Also included are numerous Plasma cell dyscrasias, such as Multiple myeloma, Smouldering Myeloma, monoclonal gammopathy of unknown significance (MGUS), solitary plasmacytoma of bone (SPB), asymptomatic myeloma, Waldenström's macroglobulemia, Solitary extramedullary plasmacytoma, Primary Amyloidosis, POEMS syndrome, and the three heavy-chain diseases). Said phrase also covers an assortment of skin disorders (e.g., psoriasis, atopic dermatitis, allergic contact dermatitis, epidermolytic hyperkeratosis, palmoplanar Pustulosis, lichenified eczema, seborrhoeic dermatitis and the keratinization disorders, etc. Also, included are LAM (Lymphangioleiomyomatosis, a smooth muscle proliferative disorder of the lungs) rheumatoid arthritis and even Alzheimer's Disease. It covers most inflammatory and immune disorders. Indeed, almost anything the body grows --- skin, blood cells, nerves, plasma, muscles, the vascular network, all of which can grow too fast, too slow, or in a manner too undifferentiated. Note, that it also covers too little proliferation as well as too much. Thus, it covers the growth of too few red blood cells or too many. Literally speaking, it

covers any disease which involves cellular proliferation, and that's most of them. Thus, it covers all viral infectious diseases, which after all are too much proliferation of infected cells. This claim language covers any disease which involves any form of proliferation of any kind of cell, and either too much or too little.

The amount of direction or guidance presented: The specification only provides bioassay for the inhibition of KSP on certain tumor cells such as: lung, breast, ovarian, colon, cervical, leukemia, renal, osteosarcoma, and SF-268. The specification does not show any evidence that the claimed compounds can treat restenosis, cardiac hypertrophy, immune disorders, and inflammation, or any other "cellular proliferative disease" mentioned in the above paragraph. For one thing, inhibiting cellular proliferation is not the first line of therapy for many diseases because there are more specific underlining causes than cellular proliferation. For example, cardiac hypertrophy is caused by the enlargement of cardiac muscle cells, and not necessarily caused by an increase number of cells. Thus, inhibiting cellular proliferation cannot effectively treat cardiac hypertrophy. Regarding restenosis, it is essentially the scarring of tissue when a stent is replaced in angioplasty, and thus it occurs in only specific location. So, inhibiting cellular proliferation might treat restenosis, but would also stop the growth of other normal cells as well. Likewise, immune disorders and inflammation can be treated more effectively and safely by targeting a more specific underlining cause rather than inhibiting cellular proliferation, which has a higher ratio of risk to benefit.

The state of the prior art: There has not been an agent that can treat "cellular proliferative diseases" that can treat all kinds of disorders without damaging other normal cell growth.

Thus, with the **unpredictable nature of the art**, and limited guidance in terms of tumor cell lines, the **skilled clinician** would have to carry out undue experimentation to treat diseases other than certain cancers because to use an inhibitor of cellular proliferation for treating all disorders would stop the growth of normal cells as well.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 73 and 83 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Said claims lack antecedent basis because they recite "*cardiac hypertrophy, immune disorders and inflammation*" which are not cellular proliferative disoders as recited in claims 18 and 67.

Cardiac hypertrophy is a disorder where the heart muscle cells **increase in size,** and not number, and thus, there is no cellular proliferation. Likewise, immune disorders typically cause cell death or tissue damage by one's own T-cells or B-cells, so said disorders do not cause cellular proliferation. Similarly, inflammation causes the swelling of tissues or organs, and does not cause cellular proliferation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamthom N. Truong whose telephone number is 571-272-0676. The examiner can normally be reached on M-T (~10 am ~ 8:30 pm) starting from February 22nd, 2004.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mukund Shah can be reached at 571-272-0674. If you are unable to reach Dr. Shah within a 24 hour period, please contact James O. Wilson, Acting SPE of 1624, at 571-272-0661.

The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306.Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1235.

T. Truong
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March 24, 2004

Mukund J. Shah 3/21/04

MUKUND J. SHAH
SUPERVISORY PATENT EXAMINER
GROUP 1600